

**Fishery Management Plan for  
Atlantic Tunas, Swordfish and Sharks**

**Errata Sheet, Version 1**

**November 30, 1999**

National Marine Fisheries Service  
Office of Sustainable Fisheries  
Highly Migratory Species Management Division  
Silver Spring, MD

Since the publication of the Fishery Management Plan for Atlantic Tunas, Swordfish and Sharks in April, 1999, a number of errors have been found. This document corrects the errors that have been found as of November 19, 1999.

### **Table of contents**

- Page ii:           2.4.1.1 should read Large Coastal Sharks.  
                      2.4.1.2 should read Small Coastal Sharks.  
                      2.4.1.3 should read Pelagic Sharks.
- Page iii:           Remove section 3.4.3.1 Atlantic Tunas from Tables of Contents list.

### **Executive Summary**

- Page xi:           Replace the bullet that reads “Implement observer coverage on all HMS charter/headboat vessels (3.8)” with “Implement a voluntary observer coverage for charter/headboat vessels (3.8)”.
- Page xii:           Replace the bullet that reads “Require all vessel operators who must complete logbooks to complete and submit them within 48 hours of making a set but prior to offloading (3.8)” with “Require all vessel operators who must complete logbooks to complete them within 48 hours of making a set but prior to offloading, and submit them to NMFS within 7 days (3.8)”.
- Page xiii, Table 1:  
                      The Atlantic tunas LL permit reference for bluefin tuna should be footnote number 2 not 3.
- The incidental retention limits for swordfish should be footnote number 4 not 5.
- Page xvii, Table 6:  
                      The LCS ridgeback quota is 620 mt dw not 622 mt dw.
- Page xxiii, Table 10:  
                      Under Establish a recreational retention limit of 3 yellowfin tuna/person/day, ecological impacts. The last sentence should read “Responds to the 1993 ICCAT recommendation to limit effort at 1992 levels.”
- Page xxx, Table 11:  
                      FMR should be replaced with F.

## Chapter 1

Page 14: The LCS ridgeback quota is 620 mt dw not 622 mt dw.

## Chapter 2

Page 4: Replace the sentence “Using this combined approach,  $F_{MSY}$  is 0.173, and  $F_{97}$  is 0.31, resulting in  $F_{97}/F_{MSY}=2.38$ ” in the last paragraph with the following sentence: “Using this combined approach,  $F_{MSY}$  is 0.13, and  $F_{97}$  is 0.31, resulting in  $F_{97}/F_{MSY}=2.38$ .”

Page 7: In the third paragraph, please add a “r” to the international rebuilding plan.

Page 8: VPA stands for a virtual population analysis.

Page 10: In the second paragraph, please remove the word “market” after the word “strong”.

Page 58: Table 2.34 is incorrect. The following table replaces it:

Parameter	Large Coastals Baseline Catch Series		Large Coastals Alternative Catch Series	
	Expected Value	CV	Expected Value	CV
K	9535	0.17	11754	0.16
r	0.07	0.51	0.05	0.50
C1975-80	284	0.39	327	0.42
MSC	149	0.38	143	0.40
N(98)	1385	0.25	2081	0.22
N(98)/K	0.15	0.24	0.18	0.23
N(98)/N(75)	0.16	0.22	0.18	0.19
C(97)/MSC	2.18	0.44	2.33	0.49

Large Coastals Baseline Catch Series						Large Coastals Alternative Catch Series					
	N	N/K	N/Nmsy	F/FMSY	F		N	N/K	N/Nmsy	F/FMSY	F
1974	8927	0.95	1.90	1.12	0.03	1974	11299	0.98	1.96	1.38	0.03
1975	8671	0.92	1.84	1.15	0.03	1975	10984	0.95	1.90	1.42	0.03
1976	8430	0.90	1.79	1.19	0.03	1976	10685	0.93	1.86	1.46	0.03
1977	8202	0.87	1.74	1.23	0.04	1977	10399	0.90	1.80	1.51	0.03
1978	7985	0.85	1.70	1.26	0.04	1978	10125	0.88	1.76	1.56	0.03
1979	7777	0.83	1.65	1.30	0.04	1979	9862	0.86	1.72	1.60	0.03
1980	7577	0.81	1.61	1.34	0.04	1980	9607	0.83	1.66	1.65	0.03
1981	7387	0.79	1.57	1.35	0.04	1981	9374	0.81	1.62	1.55	0.03
1982	7130	0.76	1.52	2.14	0.06	1982	9087	0.79	1.58	2.39	0.05
1983	6640	0.71	1.41	4.08	0.12	1983	8780	0.76	1.52	1.99	0.04
1984	6250	0.66	1.33	1.59	0.05	1984	8553	0.74	1.48	1.70	0.04
1985	6047	0.64	1.28	2.28	0.07	1985	8307	0.72	1.44	2.39	0.05
1986	5733	0.61	1.22	3.14	0.09	1986	7915	0.69	1.38	3.70	0.08
1987	5371	0.57	1.14	3.29	0.09	1987	7489	0.65	1.30	3.23	0.07
1988	4913	0.52	1.04	5.04	0.15	1988	6876	0.60	1.20	6.87	0.14
1989	4370	0.46	0.93	5.51	0.16	1989	6010	0.52	1.04	8.32	0.17
1990	3906	0.41	0.83	4.91	0.14	1990	5236	0.45	0.90	7.51	0.16
1991	3520	0.37	0.75	5.17	0.15	1991	4615	0.40	0.80	7.52	0.16
1992	3126	0.33	0.66	6.16	0.18	1992	4010	0.35	0.70	9.21	0.19

1993	2761	0.29	0.59	5.72	0.17	1993	3492	0.30	0.60	7.52	0.16
1994	2446	0.26	0.52	6.14	0.18	1994	3131	0.27	0.54	6.60	0.14
1995	2125	0.23	0.45	7.32	0.21	1995	2811	0.24	0.48	7.61	0.16
1996	1820	0.19	0.39	7.36	0.21	1996	2509	0.22	0.44	7.33	0.15
1997	1585	0.17	0.34	6.34	0.18	1997	2280	0.20	0.40	6.03	0.13

Page 63: Table 2.38 is incorrect. The following table replaces it:

Parameter	Sandbar Baseline Catch Series		Sandbar Alternative Catch Series	
	Expected Value	CV	Expected Value	CV
K	3265	0.32	2870	0.42
r	0.10	0.70	0.21	0.79
C1975-80	170	0.54	126	0.56
MSC	71	0.55	109	0.41
N(98)	924	0.45	941	0.47
N(98)/K	0.29	0.39	0.35	0.37
N(98)/N(75)	0.29	0.41	0.35	0.41
C(97)/MSC	1.34	0.58	0.85	0.61

Sandbar Baseline Catch Series						Sandbar Alternative Catch Series					
N	N/K	N/Nmsy	F/Fmsy	F		N	N/K	N/Nmsy	F/Fmsy	F	
1974	3311	1.02	2.05	1.48	0.05	1974	2960	1.03	2.06	0.74	0.04
1975	3143	0.97	1.95	1.56	0.05	1975	2830	0.99	1.97	0.77	0.04
1976	2989	0.93	1.85	1.65	0.06	1976	2720	0.95	1.90	0.81	0.05
1977	2847	0.88	1.77	1.75	0.06	1977	2630	0.92	1.84	0.84	0.05
1978	2713	0.84	1.69	1.85	0.06	1978	2540	0.89	1.79	0.87	0.05
1979	2586	0.81	1.61	1.95	0.07	1979	2470	0.87	1.74	0.90	0.05
1980	2465	0.77	1.54	2.06	0.07	1980	2400	0.85	1.70	0.93	0.05
1981	2348	0.74	1.48	2.19	0.08	1981	2330	0.83	1.66	0.96	0.05
1982	2234	0.71	1.41	2.33	0.08	1982	2270	0.81	1.62	0.99	0.06
1983	2123	0.67	1.35	2.49	0.09	1983	2210	0.79	1.59	1.02	0.06
1984	2013	0.64	1.28	2.69	0.09	1984	2150	0.78	1.56	1.06	0.06
1985	1904	0.61	1.22	2.95	0.10	1985	2100	0.76	1.53	1.09	0.06
1986	1804	0.58	1.16	2.70	0.09	1986	2030	0.74	1.47	1.59	0.09
1987	1734	0.56	1.11	2.09	0.07	1987	1940	0.70	1.40	1.81	0.10
1988	1640	0.53	1.05	3.85	0.13	1988	1800	0.65	1.29	3.04	0.18
1989	1509	0.48	0.96	4.11	0.14	1989	1600	0.57	1.14	3.94	0.23
1990	1378	0.44	0.88	4.64	0.16	1990	1390	0.49	0.98	4.63	0.27
1991	1276	0.40	0.81	3.44	0.12	1991	1230	0.43	0.86	3.92	0.23
1992	1204	0.38	0.76	3.63	0.13	1992	1100	0.38	0.77	4.56	0.26
1993	1150	0.36	0.73	2.75	0.09	1993	1020	0.36	0.71	2.82	0.16
1994	1087	0.34	0.69	4.51	0.16	1994	977	0.34	0.68	3.31	0.19
1995	1018	0.32	0.64	3.57	0.12	1995	943	0.33	0.67	2.48	0.14
1996	971	0.31	0.61	3.50	0.12	1996	933	0.34	0.67	2.27	0.13
1997	941	0.30	0.59	2.70	0.09	1997	940	0.34	0.69	1.62	0.09

Page 67: Table 2.42 is incorrect. The following table replaces it:

Parameter	Blacktip Baseline Catch Series		Blacktip Alternative Catch Series	
	Expected Value	CV	Expected Value	CV
K	5527	0.31	6532	0.29
r	0.12	0.70	0.11	0.70
C1975-85	81	0.37	235	0.38
MSC	137	0.43	157	0.45
N(98)	1383	0.57	1441	0.56
N(98)/K	0.25	0.43	0.22	0.40
N(98)/N(75)	0.27	0.47	0.25	0.45
C(97)/MSC	1.84	0.49	1.63	0.50

Blacktip Baseline Catch Series						Blacktip Alternative Catch Series					
	N	N/K	N/Nmsy	F/Fmsy	F		N	N/K	N/Nmsy	F/Fmsy	F
1974	5192	0.96	1.91	0.93	0.05	1974	6103	0.95	1.90	0.94	0.04
1975	4996	0.92	1.84	0.97	0.05	1975	5899	0.91	1.83	0.98	0.04
1976	4820	0.89	1.77	1.01	0.05	1976	5715	0.88	1.77	1.02	0.05
1977	4659	0.86	1.71	1.05	0.05	1977	5548	0.86	1.71	1.05	0.05
1978	4510	0.83	1.66	1.09	0.05	1978	5393	0.83	1.67	1.09	0.05
1979	4371	0.80	1.60	1.12	0.05	1979	5249	0.81	1.62	1.12	0.05
1980	4240	0.78	1.56	1.16	0.06	1980	5113	0.79	1.58	1.16	0.05
1981	4116	0.76	1.51	1.20	0.06	1981	4985	0.77	1.54	1.19	0.05
1982	3997	0.74	1.47	1.24	0.06	1982	4862	0.75	1.50	1.23	0.05
1983	3884	0.71	1.43	1.28	0.06	1983	4745	0.73	1.47	1.26	0.06
1984	3774	0.70	1.39	1.32	0.06	1984	4633	0.72	1.43	1.30	0.06
1985	3667	0.68	1.35	1.37	0.07	1985	4524	0.70	1.40	1.34	0.06
1986	3545	0.66	1.31	1.61	0.08	1986	4393	0.68	1.36	1.59	0.07
1987	3399	0.63	1.26	1.81	0.09	1987	4211	0.65	1.30	2.01	0.09
1988	3191	0.59	1.18	2.70	0.13	1988	3903	0.60	1.21	3.43	0.15
1989	2936	0.54	1.08	2.92	0.14	1989	3493	0.54	1.08	4.02	0.18
1990	2747	0.50	1.01	2.15	0.11	1990	3184	0.49	0.98	2.83	0.13
1991	2577	0.47	0.95	2.97	0.14	1991	2916	0.45	0.89	4.04	0.18
1992	2342	0.43	0.86	3.78	0.18	1992	2541	0.39	0.77	5.64	0.25
1993	2115	0.39	0.77	3.51	0.17	1993	2203	0.33	0.67	4.68	0.21
1994	1916	0.35	0.70	3.91	0.19	1994	1975	0.30	0.60	4.28	0.19
1995	1738	0.32	0.63	3.70	0.18	1995	1804	0.27	0.54	4.02	0.18
1996	1597	0.29	0.58	3.61	0.18	1996	1667	0.25	0.50	3.89	0.17
1997	1481	0.27	0.54	3.52	0.17	1997	1555	0.23	0.47	3.74	0.17

Page 74: Replace the first paragraph under *Commercial Fishery* beginning with “ In the early years of the 20<sup>th</sup> century,....” with the following:

Historically, small, localized shark fisheries existed along all U.S. coasts, but organized intensive shark fisheries were scarce and lasted only a few years. For instance, a shark longline fishery operated in Salerno, Florida nearly continuously from 1936 to 1950. The maximum number of these shark-fishing boats in use at any one time was five. The greatest number of shark-fishing boats known to have been operating off the Southeastern Coast of the U.S. concurrently was 16 (Springer, 1952). At this time, sharks were fished primarily for their livers and hides. The liver oil was used in the production of vitamin A, and the hides were processed into leather. Production also included fresh and salted meat, fins, and fish meal. From 1938 to 1946, all shark fishing was done with chain sets, except for one boat known to set nearshore gillnets in summer for nurse sharks. Generally, because of the weight of the chain line fishing was confined to shallow waters (<46 m). In the last years of the fishery (1947 to 1950), the catch per unit of effort increased. This was due both to expansion of the fishery and to a bonus arrangement that encouraged cooperation among the fishermen. This fishery ended in 1950, because of the appearance of low-cost, synthetic vitamin A (Springer, 1950 and Wagner, 1966).

Another small fishery developed off California, for soupfin sharks and spiny dogfish in the late 1930s. Prior to 1937, shark fishing in California supplied limited demands for fresh shark fillets and fish meal. There was also a substantial

ethnic market for dried fins of soupfin sharks. Annual production from 1930 to 1936 averaged 267 mt. In 1937, however, a new market for sharks developed when it was discovered that soupfin shark liver was the richest source of vitamin A available in commercial quantities. Supplies of vitamin A were scarce at the time because of the war in Europe (Butler, 1955). Nominal prices offered to fishermen for soupfin sharks increased dramatically, and the fishery became a bonanza. By 1942, the price of shark liver had risen to \$1,653 per metric ton from \$11 per metric ton in 1938. In 1939, about 600 boats were fishing for soupfin sharks along the California coast, with state shark landings reaching a maximum of 4,187 mt in 1939 (Ripley, 1946). In the following years, total landings decreased despite the increase in fishing effort encouraged by high prices. By 1946, shark landings had declined to 728 mt (Conner, 1947) due to overfishing, and by 1950, due to the availability of synthetic vitamin A and imports from Japan (Butler, 1955), and decreased catches to a pre-1937 level of 322 mt.

Page 87: Please replace the first three sentences in the second paragraph with “Fishermen made an estimated 206,806 trips targeting large pelagics (on private and charter vessels, both recreational and commercial) using rod and reel and handline during 1997. This preliminary estimate is only for trips made from Maine through Virginia. An additional 2,913 angler trips were estimated for North Carolina, but these were specifically for bluefin tuna.”

Page 93, Table 2.49:  
The column labeled as “Other tunas” should be “Other fish”.

Page 95: After the sentence “Currently, the Atlantic bluefin tuna purse seine fleet is limited to five vessels.” in the second paragraph please add the following sentences: “The quotas were transferable in whole beginning in the early 1980s. Beginning in 1996, the transfers could be done on a partial basis as well.”

Page 101: Photo credit was incorrectly assigned to Dan Stawinski. The photo credit should be given to Bill Papoulias, NMFS, Office for Law Enforcement.

Page 103: Please replace section 2.6.2 with the following:

### **2.6.2 Monitoring and Reporting in the Recreational Fishery**

By definition, recreational landings of Atlantic HMS are those that are not marketed through commercial channels, therefore it is not possible to monitor anglers’ catches through ex-vessel transactions as in the commercial fishery. Instead, NMFS conducts statistical sampling surveys of the recreational fisheries.

These survey programs have been used for well over a decade. The two primary survey vehicles of the recreational sector conducted by NMFS are the Marine Recreational Fishing Statistics Survey (MRFSS) and the Large Pelagic Survey. Estimates of U.S. recreational harvests for tuna and tuna-like species are currently under active review as described in the 1998 U.S. National Report to ICCAT (October, 1998).

The MRFSS is a survey designed to provide state and regional estimates of recreational catch, effort, and participation for marine fisheries on the Atlantic, Gulf of Mexico, and Pacific coasts. It was not designed to accurately monitor in-season quotas, fishing for rare target species like billfish, or pulse fishing on migrating stocks, which are all characteristic of HMS fisheries, although information on these fisheries is frequently obtained by the survey. The MRFSS is composed of two complementary surveys: 1) a random-digit dialing telephone survey of households in coastal counties from Maine through Louisiana and Washington through California to collect effort information, and 2) a fishing access point intercept survey of shore, private/rental boat, and charter/head boat fishermen to collect catch data. The MRFSS does not cover the states of Texas or Alaska which are monitored by state surveys. The Caribbean and Western Pacific have not been surveyed since 1981 but MRFSS sampling will resume in the Caribbean in late 1999. The MRFSS has not included the head boat fishery in the Southeast Region (North Carolina through Louisiana) since 1986. Data for that fishery are provided by the NMFS Beaufort Head Boat logbook and biological sampling program. Information collected by the MRFSS is used to estimate the number of fishing trips, the number and species of fish caught and/or landed (including sharks), the weight of the fish (including sharks), and the number of persons fishing. Estimates of trips targeting and/or catching sharks can be derived from the data. Shark species are identified to the most specific taxonomic category possible.

The MRFSS maintains separate data for three types of catch:

1. Fish that are available for identification, enumeration, weighing, and measuring by dockside interviewers are called Type A catch or *landings*;
2. Fish that are discarded dead or used for bait, or brought ashore but not in a form that can be identified to species (filleted or angler reports the catch but refuses to let the interviewer inspect the catch) are called B1 catch. The sum of Type A and B1 catch is called *harvest*;
3. Fish released alive are called Type B2 catch; and

4. The sum of Catch Type A, Catch Type B1, and Catch Type B2 is called *total catch*.

There is less certainty associated with Type B1 and B2 catch estimates because of the standard problems associated with self-reported data (species mis-identification, use of non-specific local names, digit and prestige bias, etc.).

The MRFSS makes separate estimates for each of the catch types. The estimates of Type A and B1 are combined for an estimate of harvest or mortality. Estimates of weights for B1 type catch use weights observed for A type catch. Estimates of Type B2 catches were not included in harvest estimates. A complete accounting of fishing mortality would include post-release mortality for Type B2 fish. Quantitative estimates of post-release or delayed mortality of HMS in recreational fisheries are not available at this time.

The Large Pelagic Survey was originally designed to estimate annual recreational catches of bluefin tuna from North Carolina through Massachusetts in the summer months (primarily for small and medium bluefin tuna) and to evaluate abundance trends of bluefin tuna by monitoring catch and effort associated with all sizes of bluefin tuna. Although it was designed for bluefin tuna, the Large Pelagic Survey collects catch information on other highly migratory species at certain times and in certain areas. There are two phases to this survey: 1) dockside interviews and observation to obtain number, species, and sizes of fish caught during a trip; and 2) a telephone survey directed at those people likely to be active in the HMS fishery to obtain the amount of effort during the prior reporting period and corroborative information about the number of fish captured. In 1992, the Large Pelagic Survey was redesigned to provide in-season monitoring of recreational catches of bluefin tuna relative to the quota. This was done by increasing the frequency of the reporting period, increasing both dockside and telephone sampling frequency, expanding the areas and times of monitoring, and focusing the sampling in the times and areas most important for the bluefin tuna catch estimation. Although the Large Pelagic Survey was designed for bluefin tuna, the data are also used to estimate catch information for other HMS and to monitor catch per unit effort trends.

In 1997, NMFS instituted a mandatory Automated Catch Reporting System to supplement monitoring of the recreational fishery for Atlantic bluefin tuna. Although this call-in requirement (1-888-USA-TUNA) is an integral part of the Angling category monitoring system, it has not replaced traditional survey methods in the recreational fishery. The recreational surveys described above are conducted simultaneously in order to provide a measure of comparison for the reported catch estimates. All vessels landing bluefin tuna against the Angling



category quota are required to participate in both the call-in reporting and survey programs. NMFS will continue to examine the results from these quota monitoring approaches together to enhance the accuracy and timeliness of quota monitoring in the Angling category for bluefin tuna.

The MRFSS program initiated a series of studies in the mid-1990's to develop, test, and evaluate alternate methods for monitoring the charter boat fishery's effort: the MRFSS estimates are highly variable for this sector of the fishery because few charter boat fishermen live in coastal counties and are encountered in the telephone survey. The MRFSS-developed vessel-directory survey method has now been tested through cooperative state/federal programs in Maine (small fleet) for 5 years, North Carolina (medium fleet) for two years (1996-97), and the Gulf sub-region (West Florida through Louisiana - large fleet) for the last two years. The Gulf program was conducted in cooperation with the Gulf States Marine Fisheries Commission, the Alabama Department of Conservation and Natural Resources, the Florida Department of Environmental Protection, the Louisiana Department of Wildlife and Fisheries, and the Mississippi Department of Marine Resources. The NMFS Panama City Laboratory also participated in the Gulf pilot by testing the use of voluntary logbook reporting by operators of randomly selected panels of charter boats in the Panhandle region of Florida. These studies have shown that a weekly vessel-directory telephone survey is the most viable and accurate method for estimating for-hire boat fishing effort.

Currently, new estimates using a weekly vessel-directory telephone survey on a sub-regional basis exist only for charter boats for the Gulf of Mexico sub-region for 1998 to the present. With the cooperation of Gulf States Marine Fisheries Commission (GSMFC) and the Gulf states the NMFS plans to continue using this method of data collection for charter boats in the Gulf coast. Full implementation of this method for other sub-regions on the Atlantic and Pacific coasts has major budgetary implications and will depend upon the availability of funding.

Although this FMP establishes a mandatory logbook reporting requirement for charter/headboat vessels, the pilot program is investigating alternate means of obtaining accurate catch estimates in this fishery, while minimizing survey costs and the reporting burden.

NMFS is committed to working with the states to develop more effective partnerships for monitoring the recreational fisheries. As part of a program launched in 1998, more than 25 reporting stations have been established in North Carolina, and Angling category vessel operators in the winter fishery are required to fill out a catch reporting card for each bluefin tuna. Information on these angler catch cards is entered into a database in the Northeast Regional Office on a weekly

basis. This program, coordinated by NMFS in cooperation with the North Carolina Division of Marine Fisheries, was continued in 1999. Other mid-Atlantic states, including Maryland, Delaware, and Virginia have demonstrated an interest in establishing a similar program. There are significant challenges associated with developing tagging programs for the recreational fishery, since the participants are widely dispersed and recreational landings are not channeled through any central points of contact (e.g., fish dealers in the commercial fishery). NMFS believes that a successful tagging program depends upon effective state and federal coordination that takes into account regional differences in the fishery, in addition to cooperation with the recreational industry.

In April 1998, NMFS implemented a mandatory registration system for tournaments involving any billfish, with mandatory reporting if selected. This FMP extends the requirement to tournaments directed at any Atlantic HMS, in order to improve estimates of HMS catches and landings by tournament participants. Tournament registration allows NMFS to establish a universe in order to expedite outreach to recreational fishermen who participate in tournaments. The reporting forms also provide NMFS with catch, release, and fishing effort statistics that are useful in characterizing the fishery. Because the Large Pelagic Survey does not collect recreational fishing data in the southeast United States or the Gulf of Mexico, tournament data can provide information on which species are targeted in these areas, as well as release rates for each species. Finally, this information allows NMFS scientists to travel to selected tournaments to collect data on age/growth and sexual maturity that are used in stock assessments.

### Chapter 3

- Page 2: Remove section 3.4.3.1 Atlantic Tunas from Tables of Contents list.
- Section number 3.4.4.1.3 in section 3.5 should be 3.5.4.1.3.
- Page 13: Please subscript the  $B_{MSY}$  in the sentence in the first paragraph after the final action reading “In cases where  $B/B_{MSY}$  is between  $\frac{1}{2}$  MSST and  $B_{MSY}, \dots$ ”
- Page 29, Table 3.6:
- Under the 10-year Rebuilding Program and the Status Quo rebuilding alternatives the please replace the domestic allocation alternative “2. SQ w/Purse” with “2. SQ with Purse Seine Cap”.
- Page 61: In the first paragraph under section 3.4.13 please note that the sentence “However, 50-percent probability is minimally acceptable for ensuring that overfished fisheries are rebuilt to maximum sustainable yield levels.” refers to section 3.7.

Page 76 and 77, Table 3.3:

The common names and sample sizes on the x-axis should be:

<b>Common name</b>	<b>Sample Size</b>
Bignose	41
Blacktip	1570
Bull	170
Caribbean reef	12
Charcharinid shark	13
Dusky	769
Galapagos	2
Great hammerhead	131
Hammerhead sharks	1
Lemon	99
Night	29
Nurse	340
Sand Tiger	51
Sandbar	7605
Scalloped Hammerhead	172
Silky	150
Smooth Hammerhead	6
Spinner	73
Tiger	2053
White	3

Page 101: In the first paragraph under the rejected option, the second to last sentence should read “Under this alternative, the quota would be monitored as it is now and any quota overharvests or underharvests would be adjusted in that season the following year.”

- Page 134: This action implements the 1993 ICCAT recommendation.
- Page 139: The last sentence in the first paragraph should read “The alternate minimum size was adopted by the United States and Canada in 1996.”
- Page 141: The first paragraph, first sentence should read “Because this fishery operates on a quota management system, and the price per pound of small swordfish is lower than that for larger swordfish, this alternative may have contributed to an increase in the total ex-vessel value of the swordfish quota relative to years in which there was no minimum size.”
- Page 144: The second to last sentence in the last paragraph should read “In addition, this FMP requires that pelagic longline fishermen complete their logbooks within 48 hours of haulback, which may facilitate enforcement (logbooks are currently required to be submitted to NMFS within seven days after offloading; Section 3.8.2).”

Page 146, Table 3.25:

Please replace Table 3.25 with the following:

<b>Permit</b>	<b>Gear</b>	<b>Time</b>	<b>Swordfish Bycatch Limit</b>
Directed or Incidental	Squid Trawl	All times	5 swordfish per trip
Incidental	All gears, except squid trawl	Until incidental quota is filled	2 swordfish per trip
Directed*	Pelagic longline	During a directed fishery closure until the incidental quota is filled	15 swordfish per trip
Directed*	Handgear	During a directed fishery closure	0 swordfish per trip
Handgear	Handgear	During a directed fishery closure	0 swordfish per trip

\* Note: Directed permit holders are not subject to bycatch limits when the directed fishery is open.

- Page 148: The last sentence should read “NMFS intends to wait for the evaluation of other implemented measures in this FMP, including limited access, before assessing whether effort controls need to be re-considered in the commercial fishery.”

Page 161: The last sentence of the first paragraph under Ecological Impacts should read “This action may exceed the NS 1 requirement to prevent overfishing for pelagic sharks, which were found to be fully fished in 1993, and the fully fished SCS.”

Page 164: The first sentence of the conclusion should read “This action is selected because it will meet NS 1 to prevent overfishing and rebuild overfished fisheries for LCS and prevent overfishing for pelagic sharks, which were found to be fully fished in 1993, and the fully fished SCS.”

Page 165 and 166, Figure 3.5:

The common names and sample sizes on the x-axis should be:

<b>Common name</b>	<b>Sample Size</b>
Blacktip	163
Bull	17
Dusky	51
Great Hammerhead	4
Lemon	20
Nurse	9
Reef	1
Requiem sharks	3
Sand Tiger	4
Sandbar	96
Scalloped Hammerhead	5
Silky	7
Smooth Hammerhead	7
Spinner	48
Tiger	9

Page 168: The last sentence of the paragraph under Ecological Impacts should read “Thus, this alternative would not meet NS 1 to rebuild overfished fisheries

for LCS but would likely exceed the NS 1 requirement to prevent overfishing for pelagic sharks and the fully fished SCS.”

- Page 169: The last sentence of the first paragraph under Ecological Impacts should read “This alternative would be expected to meet NS 1 to prevent overfishing and rebuild overfished fisheries for LCS, and would also enhance stock status for the pelagic sharks, were found to be fully fished in 1993, and the fully fished SCS.”
- Page 170: The first sentence of the second paragraph should read “This alternative would likely have similar economic impacts to those described under the catch and release only fishing option in that the impacts would depend on the willingness for shark anglers to substitute other fish and release sharks caught,…”
- Page 172: The last sentence should read “This alternative would be expected to meet NS 1 to prevent overfishing and rebuild overfished fisheries for LCS, and would also enhance stock status for pelagic sharks, which were found to be fully fished in 1993, and the fully fished SCS.”
- Page 174: The last sentence of the first paragraph should read “This alternative would be expected to meet NS 1 to rebuild overfished fisheries for LCS, and may prevent overfishing for pelagic sharks and SCS.”
- Page 185: Remove the section heading “ 3.4.3.1 Atlantic Tunas”.
- Page 201, Table 3.28:  
The asterisk for pelagic longline in the “Bycatch and bycatch mortality data collection changes in this FMP” column should reference to footnote 2.  
The last columns for the two rows labeled “Bottom longline” and “Shark Drift Gillnet” should also reference footnote 2.
- Page 204: Under the Bycatch of BAYS section, the second sentence should begin “BAYS tunas are caught as target and non-target species in HMS fisheries,…”
- Page 205: The last sentence of the first full paragraph should read “Table 3.30 indicates monthly trends in squid trawl landings of swordfish (lbs dw).”
- Page 213, Table 3.38:  
The number of bluefin tuna discarded dead should be 12 not 123.

Footnote 2 should read “Amendment One to the Atlantic Billfish FMP established billfish released in the recreational fishery as a ‘catch and release’ program, thereby exempting these fish from bycatch considerations.”

Footnote 3 should read “NMFS reported 14.6 mt of dead discards of bluefin tuna in the rod and reel fishery to ICCAT for 1997 (NMFS, 1998b).”

Page 215 and 216:

Please remove any references to Figure 3.7 and remove Figure 3.7 itself.

Page 219: The second to last sentence of the last paragraph should read “In 1993, a right whale was entangled by a driftnet although the right whale was already entangled in pot gear.”

Page 220, Table 3.41:

The total marine mammals should be 295 not 293.

Page 223: In the first paragraph, please add “(Table 3.46)” after the second sentence.

Page 224: After the first sentence of the first paragraph, please add the sentence “Table 3.47 summarizes bycatch by gear type.”

Page 246: In the final action for minimum size for swordfish, 33 pounds should be in dressed weight.

Page 256: The section number 3.4.4.1.3 should be 3.5.4.1.3.

Page 294, Final Action:

The Final Action should read “Require completion of logbook forms before offloading (for one-day trips) or within 48 hours of each day’s fishing activities (for multi-day trips). Logbook forms must be submitted with seven days after sale of offloading all Atlantic HMS.”

## **Chapter 6**

Page 24: In the last paragraph, 85°N should be 85°W and 95°N should be 95°W.

## **Chapter 8**

Page 9: The LCS ridgeback quota is 620 mt dw not 622 mt dw.

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KBrewsterGeisz: SF1: 713-2347: 11/19/99